



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,938	10/06/2003	Benjamin Ari Tober	111244.150 (US2)	3607
23483	7590	10/29/2008	EXAMINER	
WILMERHALE/BOSTON			HOANG, HIEU T	
60 STATE STREET			ART UNIT	
BOSTON, MA 02109			PAPER NUMBER	
			2452	
			NOTIFICATION DATE	
			DELIVERY MODE	
			10/29/2008	
			ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

michael.mathewson@wilmerhale.com

teresa.carvalho@wilmerhale.com

sharon.mathews@wilmerhale.com

### Office Action Summary

**Application No.**

10/679,938

**Applicant(s)**

TOBER ET AL.

**Examiner**

HIEU T. HOANG

**Art Unit**

2452

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) 2-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This office action is in response to the communication filed on 09/18/2008.
2. Claims 1-12 and 21-24 are pending.

***Election/Restrictions***

3. Claims 2-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/18/2008.
4. Claims 1 and 21-24 are presented for examination.

***Response to Arguments***

5. Applicant's arguments have been fully considered but they are moot in view of new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 and 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites "at least one of a process and socket." It is believed that a process and a socket are distinct; therefore, the limitation should be rewritten as "at least one of a process and a socket."

8. Claim 1 recites "modifying the operating system kernel to designate a lead operating system kernel." It is vague how the operating system kernel can contain lead operating system kernel and non-lead operating system kernels, and what is meant by "lead operating system kernel". The specification refers to lead processor and lead interface ([0089], [0093]), by modifying a kernel. Since the claim does not recite what lead means, any processing part or interface in the kernel can be read as a lead operating system kernel.

9. Claim 22 recites "a plurality of processors residing on the network device, which implement a single IP host." It is vague which of the plurality of processors or the network device implements a single IP host. Correction is required.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalton et al. (US 2003/0172109, hereafter Dalton), in view of Peacock (US 4,914,570, hereafter Peacock).

12. For claim 1, Dalton discloses a method for use in managing resources in networking (abstract), the method comprising:

adding a field to an operating system kernel software procedure, the field referencing a virtual router context (fig. 3, fig. 6, modified Linux kernel, abstract, [0140], [0141], modify kernel to introduce a tag, struct csecinfo is used to hold a compartment routing number); and

modifying the operating system kernel to provide heritability of the field referencing a virtual router context (fig. 5, boot-time inheritance of a socket, sceinfo inherited, [0049], [0052], kernel is provided with means for attaching a process with a tag indicating a compartment, tag can be inherited) in at least one of a process and a socket (fig. 5, a socket inheritance);

Dalton does not explicitly disclose designate a lead operating system kernel for a distributed host, wherein the lead operating system kernel performs tasks for the distributed host.

However, Peacock discloses a method in for process distribution and sharing in a multiprocessor system (title), comprising modifying Kernel (col. 5 lines 32-44) to allow requests or tasks that cannot be handled by an application processor AP to be handled by a main processor MP (fig. 1, main processor MP, application processors APs, col. 5 lines 32-60, MP handles special tasks which cannot be done by APs); the MP handles special system functions that APs cannot (col. 5 lines 54-60).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Dalton and Peacock to apply distributing application processing to a multiprocessor of Peacock, and take advantage of

Peacock's main processor being able to process special functions for the process distribution system.

13. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalton, Peacock, further in view of Lundback et al. (US 6,912,590, hereafter Lundback).

14. For claim 21, Dalton-Peacock does not explicitly disclose providing an IP host that is compatible with existing protocols.

However, Lundback discloses providing an IP host that is compatible with existing protocols (Lundback, col. 9 lines 30-32, IP host using one IP address, col. 7 l. 2, raw IP transport).

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Dalton, Peacock and Lundback to design an IP distributed host that is compatible with current protocols in order to conform to networks standards.

15. For claim 22, Dalton-Peacock does not disclose running separate operating system instances on a plurality of processors residing on the network device, which implement a single IP host. However, Lundback discloses the same (Lundback, abstract, plural processors on a platform, implementing a single IP host).

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Dalton, Peacock and Lundback to design an IP distributed host with a single IP address to avoid using and maintaining multiple addresses unnecessarily.

16. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundback in view of Dalton.

17. For claim 23, Lundback discloses an apparatus residing in a network comprising:

a plurality of processors residing in the apparatus (abstract, processor cluster for processing distributed application, fig. 3, plural processors 30), and implementing a distributed host (fig. 3, col. 6 lines 24-32, distributed socket host), wherein individual processors of the plurality of processors determine responsibility for processing packets received at each processor (col. 5 lines 24-32, each processor executes IP related applications that use IP transport service, such as TCP, UDP, or raw IP); and

at least one computer readable medium, in communication with at least one of the plurality of processors (fig. 4, col. 7 lines 16, processor assignment table in a computer readable medium)

Lundback does not explicitly disclose storing an operating system instance whose kernel includes a field to indicate an appropriate virtual routing context within the apparatus to handle an incoming data packet, wherein the field is heritable in the virtual routing context.

However, Dalton discloses storing an operating system instance whose kernel includes a field to indicate an appropriate virtual routing context within the apparatus to handle an incoming data packet, wherein the field is heritable in the virtual routing context (fig. 5, boot-time inheritance of a socket, sceinfo inherited, [0049], [0052],

kernel is provided with means for attaching a process with a tag indicating a compartment, a tag can be inherited)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Lundback and Dalton so that tags can be inherited and processes with a same tag can share workload; therefore increase efficiency by assigning tags automatically and increase security among different compartments (Dalton, abstract, [0049])

18. For claim 24, Lundback-Dalton further discloses providing an IP host that is compatible with existing protocols (Lundback, col. 9 lines 30-32, IP host using one IP address, col. 7 l. 2, raw IP transport).

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is included in form PTO 392.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not



mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

/Kenny S Lin/  
Primary Examiner, Art Unit 2452